



THE PORT AUTHORITY
OF NEW YORK AND NEW JERSEY

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ENGINEERING PROGRAM MANAGER
WORLD TRADE CENTER
P.K.H.
CHIEF ARCHITECT

Engineering Department
Design Division

The World Trade
Center
Electrical/HVAC
Upgrade Program

TOWERS ONE AND TWO -
LOW VOLTAGE SUBSTATIONS
CONSTRUCTION AND
INSTALLATION

ARCHITECTURAL
SUBSTATION - SS 41N
TOWER ONE
ROUTING PLAN

No. Date Revision Approved

This drawing subject to conditions in contract.
All inventions, ideas, designs and methods
herein are reserved to Port Authority and may not
be used without its written consent.

A.T.S. L.V.S. D.D. A.T.S. L.V.S.
Designed by Drawn by J. M. Linder
Reviewed and Approved by J. M. Linder
Date 5/1/95

Contract Number Drawing Number
WTC-802.071 A-21

ROUTING AND CRIBBING NOTES:

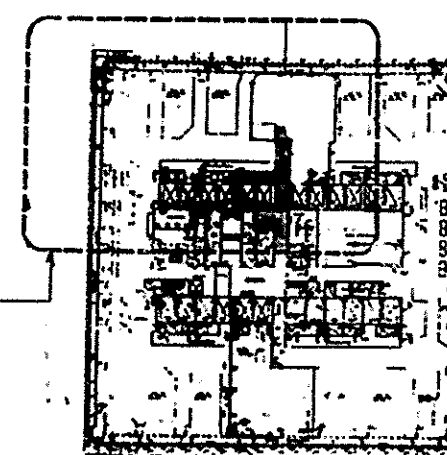
1. THE LOCATION OF THE ELECTRICAL EQUIPMENT ON THE FLOORS SHALL NOT BE CHANGED WITHOUT THE APPROVAL OF THE ENGINEER.
2. ALL ELECTRICAL EQUIPMENT SHALL BE MOVED FROM THE TRUCK TO THE ELEVATOR AND TO THEIR FINAL PLACEMENT LOCATION ON THE FLOORS ON WHEELED CARRIAGES MOVING IN A CONTINUOUS NON-SLIP MANNER VIA THE DESIGNATED ROUTE (SHOWN SHADED ON PLANS).

CRIBBING AS DETAILED ON THE CONTRACT DRAWINGS SHALL BE PLACED ON THE ROUTE SLAB AND THE EQUIPMENT CARRIAGE SHALL BE ROLLED ON IT. THE EQUIPMENT SHALL BE LIFTED DIRECTLY FROM THE CARRIAGE TO THE SUPPORT FRAMES ON PADS IN THE FINAL LOCATION WITHOUT PLACING IT AT ANY OTHER LOCATION ON THE FLOOR.
3. NO AREA WITHIN THE WORLD TRADE CENTER SUB GRADE LEVEL OR ON THE FLOORS SHALL BE USED FOR THE PURPOSE OF EQUIPMENT STORAGE WITHOUT THE APPROVAL OF THE ENGINEER.
4. A FORKLIFT SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
5. THE CARRIAGE DETAIL WITH NUMBER AND GAUGE OF WHEELS SHALL BE SUBMITTED FOR APPROVAL.
6. CRIBBING SHALL BE REQUIRED ON ALL FLOOR SLABS FOR MOVING TRANSFORMERS AND ANY OTHER EQUIPMENT WEIGHING MORE THAN 3,500 LBS.
7. CRIBBING REQUIRED FOR TRANSFER OF TRANSFORMER SHALL BE COORDINATED WITH MANUFACTURER. CONTRACTOR SHALL COMPLY WITH MANUFACTURER'S REQUIREMENTS BEFORE MOVING ANY TRANSFORMER EQUIPMENT.
8. FOR INFORMATION RELATING TO THE LOCATION AND ARRANGEMENT OF TRANSFORMERS, TRANSFORMER BASES AND ALL OTHER ELECTRICAL EQUIPMENT AT SUBSTATION ROOM, SEE ELECTRICAL DRAWINGS.
9. THE CONTRACTOR SHALL USE A CRANE MAT OR OTHER ALTERNATE METHOD FOR CRIBBING OVER SLAB WITH THE APPROVAL OF THE ENGINEER.
10. TIMBER CONSTRUCTION (SEE NOTES #1 ON DWG. A-1)
A. ALL LUMBER DIMENSIONS SHOWN ARE NOMINAL.
B. ALL LUMBER SHALL BE "DOUGLAS FIR SOUTH" OR APPROVED EQUAL.
16" X 4" BEAMS - SELECT STRUCTURAL WITH MIN. Fb = 1700 PSI, E = 1400 PSI, 4" BLOCKING-GRADE NO. 1
C. FOR ADDITIONAL INFORMATION AND REQUIREMENTS, SEE SPEC. 06100.
11. CRIBBING INSIDE THE SUBSTATION SHALL BE CONTINUOUS AS REQUIRED AND SHALL BE COORDINATED WITH THE MANUFACTURER AS SHOWN ON NOTE #7

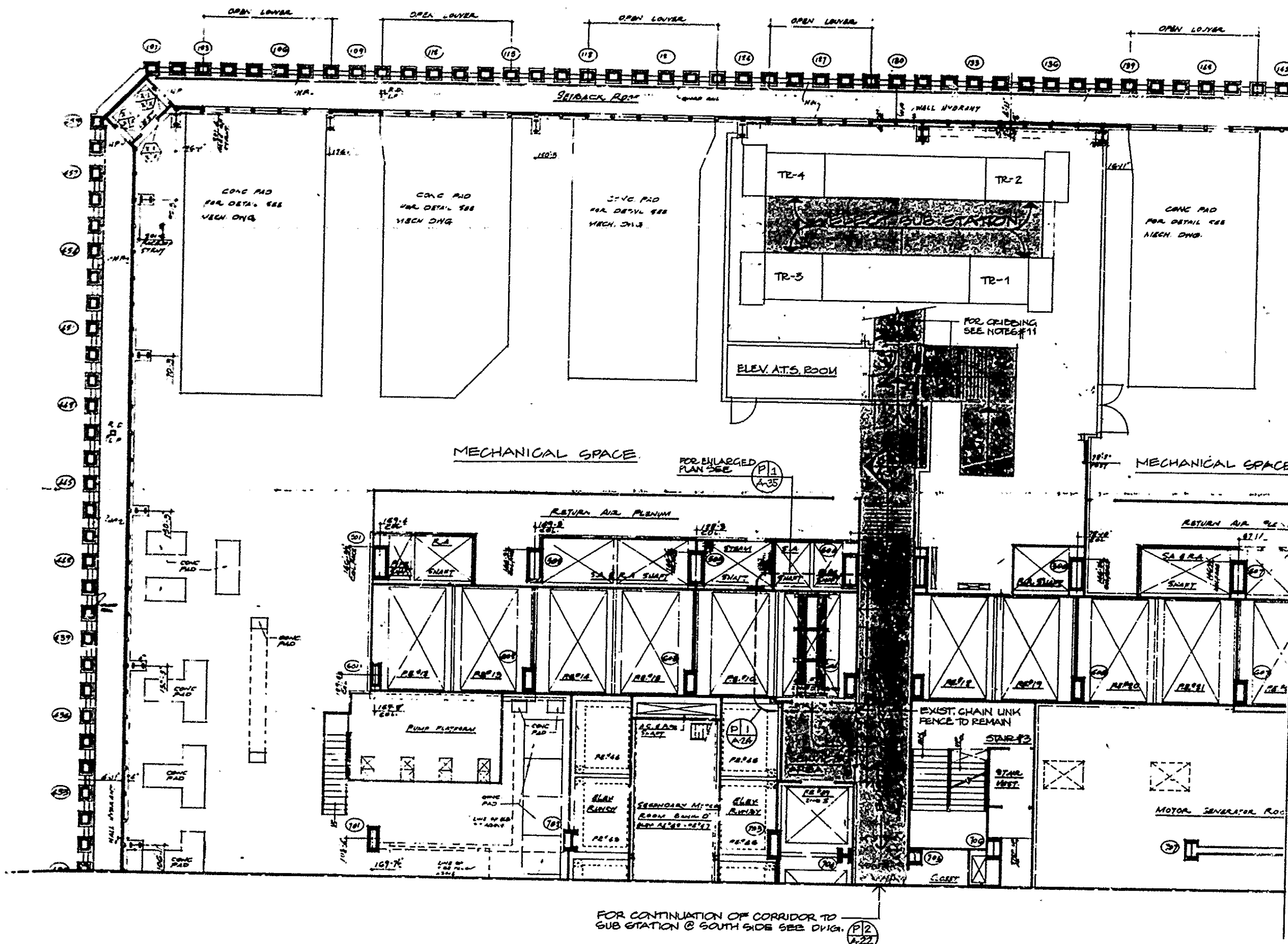
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS CONSTITUTING A PART OF CONTRACT NO. WTC-802.071 IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

DATE 6/21/95 *Smallman A. Adams*
SPEC. WRITER

DATE 7/1/95 *Peter K. Seewer*
ENGINEER OF DESIGN



KEY PLAN



P1 ROUTING PLAN
SCALE IN FEET

AREA OF ROUTING P1